THE SOURCE

NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT WWW.DES.STATE.NH.US/DWSPP

FALL 2002

Project WET Spreads a Water Protection Message

NEW HAMPSHIRE PROJECT WET
Water Education for Teachers

For more information contact Nicole Clegg at 271-4071 or nclegg@des.state.nh.us

Q: What is the most common cause of water pollution in the United States?

Nearly three-quarters of Americans do not know that the answer to this question is runoff from yards, streets, paved lots, and farm fields. This is significant because such nonpoint source pollution is something to which we ALL contribute. Instead, most Americans (45 percent) point the finger at factories rather than at themselves and their neighbors. Clearly, education is needed to alert people to the role they play in water quality.

But what town or water system has the time or money to develop a water education program? Since 1997, DES has sponsored a ready-made, easy-to-use water education program known as Project WET (Water Education for Teachers) that many water suppliers, towns, and watershed organizations are using to educate and promote water protection.

> "Project WET engages students in water conservation and water protection. And when the students are excited, they become the educators - they go home and tell their family about water protection."
>
> *- Nicole Clegg*

For instance, Manchester Water Works and Merrimack Village District not only incorporate Project WET resources into their own in-school presentations, but they also sponsor WET workshops for local classroom teachers. Cheryl Wood, education director for Manchester, believes that Project WET benefits the water system because "by offering Project WET trainings to local teachers, they teach more about water resources, protection, and conservation during their regular class periods saving our staff time. And the message spreads much further than the twenty students in class as they go home and tell their parents, grandparents, family, and friends about what they've learned."

In some instances, organizations choose to work closely with a school so that water education becomes infused into the regular curriculum. This was recently the case in Plaistow when the town's Source Water Protection Committee not only hosted a Project WET workshop for all teachers from the local elementary school but also reviewed the school's curriculum to determine exact lessons in each grade where water resource topics best match what the school is already teaching.

So, what makes Project WET so special? According to Nicole Clegg, NH Project WET Coordinator, the charm of Project WET lies in how easy it is to use. Anyone who attends a WET workshop receives a resource guide that contains over 90 water-related activities that engage participants in learning important water concepts. Each activity contains instructions and background information so that one doesn't have to be an expert on nonpoint source pollution, wetlands, or drinking water to be able to teach about them. To date, over 600 New Hampshire educators have attended a workshop and received these materials. It also helps that the WET activities are fun. Clegg believes, "many students are having so much fun during the activities, they don't even realize they're learning!"

To learn more about how Project WET could benefit your organization, including how it can help meet the public education and outreach requirement for Phase II municipalities, or to find out how to host a workshop for your local school, contact Nicole Clegg at 271-4071 or nclegg@des.state.nh.us, or see our website at www.des.state.nh.us/wet.

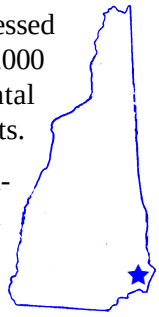
Spotlight on... Aquarion Water Company

What do you do if your system's 14 wells are 25 percent below normal yield and have been for the last 12 months? Add to that the fact that the 18,000 residents you usually serve swells to almost 50,000 during the summer months. Such is the case for Aquarion Water Company, serving the towns of Hampton, North Hampton, and areas of Rye. Aquarion's answer has been to launch a comprehensive water conservation program targeting both the system's equipment and water users. There are four basic components of the program:

A comprehensive leak detection audit has resulted in the repair of various equipment leaks including eight to 10 leaking hydrants.

Outdoor water restrictions have been in place since July, with a complete ban on all outdoor watering (lawns, cars, pools, etc.) instituted in August. With the ban has come an increase in the number of calls from customers, many wanting to turn in their neighbors. Thus, enforcement action is up, with staff randomly patrolling service areas, sometimes at 4 a.m., looking for violators. Estimates are that approximately 80 percent of people were complying with the ban.

FREE conservation retrofit kits (up to two per household) were offered to residents and area hotels and rental properties. Each kit contains a low-flow showerhead, two faucet aerators, and a toilet bank, as well as toilet tank leak detection tablets. To date, Aquarion has processed orders for 2,000 showerheads and 3,000 aerators for local hotels and rental properties and 1,500 residential kits.



A general education program explaining the need for conservation and suggesting water-saving actions was also employed. The program included working with local media outlets to get the issue onto the front pages and airwaves. Staff also went door-to-door distributing flyers to residents. To reach the tourists who come and go on a weekly basis and were virtually unaware of the situation, Aquarion got creative and purchased space on an airplane-flown banner over Hampton Beach. Instead of the usual "Lobster Special $10.95" messages that are typical, beach goers looked skyward and saw "Water Supply Shortage – Please Conserve" for several weekends this summer. The company hopes to make classroom presentations during the coming school year to continue its conservation message to residents.

Through some creative measures and their dedicated staff, Aquarion Water Company succeeded in working with residents to reduce water demand this summer. For more information about the conservation program, contact Brian Goetz at 926-3319 or bgoetz@aquarionwater.com, or visit www.aquarion.com/newhampshire.html.

Judy Maloney Retires

Served as DES Hydrogeologist for 10 years

The Drinking Water Source Protection Program recently hosted a luncheon to say farewell to Judy Maloney. Judy retired from state service in July after ten years as a hydrogeologist. Her good nature, technical expertise, and dedication to the community well-siting program will be missed by staff and the regulated community.

Judy began with DES's Source Water Protection Program in 1992 and was instrumental in creating and implementing New Hampshire's community well-siting and bottled water rules. She also worked with a number of municipalities concerning delineation of their wellhead protection areas.

Questions concerning bottled water or new well sitings should now be directed to Brandon Kernen or Tim Nowack.

The Source, the quarterly newsletter of DES's Drinking Water Source Protection Program, is published by:

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

6 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
(603) 271-3503

Acting Commissioner	George Dana Bisbee
Division Director	Harry T. Stewart
Bureau Administrator	Anthony P. Giunta
Program Manager	Sarah Pillsbury
Editors	Nicole Clegg, Paul Susca

Printed on Recycled Paper

To subscribe contact Nicole Clegg at 271-4071
www.des.state.nh.us/dwspp

Water Protection Grant Opportunities

Source Protection Projects

Applications for the 2003 Source Water Protection Grants are being accepted until November 29, 2002. Grant funds of up to $15,000 per project are available to develop and implement programs to protect existing sources of drinking water. Application packets were sent out in late August to Regional Planning Commissions, primary operators of community and non-community, non-transient systems, and consultants.

Several of last year's funded projects involved fence and gate installation around vulnerable wells to increase security. Examples of other projects include the development of protection ordinances, reclassification of groundwater, mapping of storm drains, and implementation of BMPs to improve water quality. Application materials and a more complete summary of previously funded projects can be found on our website at www.des.state.nh.us/dwspp/grants.htm. If you would like an application or have any questions, please contact Johnna McKenna at 271-7017 or at jmckenna@des.state.nh.us.

Agricultural Nutrient Management Projects

In a new program, the N.H. Department of Agriculture, Markets, and Foods (DAMF) will award small Agricultural Nutrient Management Grants of up to $2,500. These funds can be used to implement measures to prevent or mitigate water pollution from livestock and agricultural land operations. Funding may also be utilized by organizations for related educational projects. Projects that would qualify for funding include fencing livestock out of surface water, controlled wetland crossings, concrete pads and roofs for manure/compost storage, pasture pumps or other watering systems as alternatives to surface water sources, and installation of vegetated buffers/divergence berms.

The simple two-page application, due by December 1, 2002 for this round, requires applicants to provide contact information and qualifications, a project description and objectives, and a budget. For more information or to request an application, contact Richard Uncles, DAMF, at 271-3685 or runcles@agr.state.nh.us.

Impact of Boating on MtBE in Paugus Bay Studied

Several of New Hampshire's surface water supply sources are heavily used for boating. Since conventional carbureted two-stroke engines allow up to 30 percent of the fuel to pass through the engine unburned, DES's Waste Management Division, as part of its ongoing research into the prevalence of oxygenate additives (such as MtBE) in gasoline and in the environment, is investigating the impact of boating on a water supply reservoir. Paugus Bay, the sole source of water supply for Laconia Water Works, was chosen in part because the Bay has a distinct inlet and outlet, and because the Water Works has at times experienced MtBE levels over 5 parts per billion (ppb) in the past year.

The study, conducted by UNH's Contaminant Monitoring and Remediation Center and led by Civil/Environmental Engineering Professor Nancy Kinner, involved tracking MtBE concentrations at nine sites in the Bay from May to October 2002. Samples were taken every few weeks, with additional sampling before and after several high-use weekends. Samples were also taken at the water supply intake and at various points in Laconia's treatment plant to observe the effects of treatment processes on MtBE levels. A study is also being conducted of various types of outboard engines and personal watercraft to see how much MtBE they release into the water. MtBE levels up to 50 ppb were found near idling boats.

In addition to monitoring MtBE in the Bay, the UNH team looked at MtBE levels in the gasoline sold at area marinas, comparing concentrations at the beginning and the end of the season. The project is already having positive results, according to DES's Chief Engineer for Remediation Programs, Fred McGarry. After the UNH team presented the project plan to area marinas in June, several marina owners took immediate action and are already carrying gasoline with reduced MtBE levels.

As *The Source* went to press in September, preliminary data had shown an increase in MtBE concentrations throughout Paugus Bay during the course of the boating season, but as of mid-August concentrations had not exceeded the MCL of 13 ppb at the water supply intake. In areas of the Bay where gasoline with lower MtBE concentrations is being sold, the concentrations seemed to have stabilized. The MtBE levels below the thermocline were much lower than those in the upper layer of the lake. The results are consistent with observations in similar studies in other states.

The Paugus Bay MtBE study is being funded by the state Gasoline Remediation and Elimination of Ethers Fund (GREEF), fed by a 0.25 cent/gallon tax on gasoline sales. Results of the study will be available in April 2003 at the Waste Management Division website.

An Update on Security Issues for Water Systems

A lot has been happening on the state and national level in regards to security for public water systems. Here are a few of the most recent actions that may affect your water system:

•Emergency Plan rules (Env-Ws 360.14) were adopted in March requiring all community systems to complete and submit an emergency plan to DES by March 15, 2003. Even though non-community systems are not required to submit an emergency plan to DES, all systems are encouraged to have an emergency plan. Guides and self-help documents are available through DES.

•Three workshops were held in June throughout the state to help systems complete their emergency plans. An additional workshop was also held at the Drinking Water Expo on October 2 at the Center of NH in Manchester. More workshops will be held in November. Contact Johnna McKenna for additional dates and times.

•The Security and Bioterrorism Preparedness and Response Act was passed by Congress and requires all public water systems that serve 3,300 people or more to complete vulnerability assessments (VAs) and emergency response plans (ERPs). Systems that serve 100,000 people or more must complete their VAs by March 31, 2003. Systems that serve 50,000-99,999 people have until December 31, 2003 and systems serving 3,300-49,999 have until June 30, 2004. ERPs are due 6 months after the VAs are complete.

DES was awarded $55,200 from EPA to assist systems in completing these vulnerability assessments. Approximately $258,900 will be awarded in the near future to provide assistance to the medium and smaller systems. DES anticipates having a plan developed this fall in order to assist these systems with the requirements.

•Manchester Water Works was recently awarded funds from EPA to complete its vulnerability assessment and emergency response plan. EPA is now in the process of accepting vulnerability assessment grant applications for large privately-owned water systems serving 100,000 people or more.

For up-to-date information on these and other security issues, please visit our website at www.des.state.nh.us/wseb. For more information, contact Johnna McKenna at 271-7017 or jmckenna@des.state.nh.us.

Contaminants Increase With Population Density

A recent U.S. Geological Survey study of groundwater quality in the United States found detectable amounts of human-caused contaminants in 70 percent of the water supply wells sampled. The study tested 242 public water supply wells and 1,255 private wells for volatile organic compounds (VOCs), pesticides, and nitrate. VOCs were detected in 44% percent of wells, pesticides in 38 percent, and nitrate (at least 3 mg/L) in 28 percent.

The results are not necessarily representative of groundwater quality in New Hampshire; only three of the 1,497 wells tested were in New Hampshire. However, the study should sound a cautionary note for those concerned about the quality of groundwater as a water supply source. In the study, urban land use was associated with the presence of VOCs and pesticides, and agricultural land use with pesticides and nitrate. When the investigators looked at population density in the area (1,850 ft radius) around the wells, they found that pesticide and VOC detections rose dramatically after a certain threshold population density was reached. The results underscore the importance of wellhead protection activities.

The article can be viewed on-line at http://water.usgs.gov/nawqa/vocs.

6 Hazen Drive, Concord, NH 03301

NEW HAMPSHIRE DEPARTMENT OF Environmental Services